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FIRST RECORDS OF THE MACULATED FLOUNDER *BOTHUS MACULIFERUS* (POEY) FROM THE CARIBBEAN COAST OF CENTRAL AMERICA

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Abstract.—Five individuals of the maculated flounder, *Bothus maculiferus* (Poey) were collected from seagrass habitats in the vicinity of Colon, Republic of Panama. These specimens represent the first records of *B. maculiferus* from the Caribbean coast of Central America. Morphological characteristics of the specimens, habitat data and other ecological features of area of capture are described.

Weinstein and Heck (1977, 1979) and Heck (1977, 1979) previously described the seagrass fauna in the vicinity of Colon, Republic of Panama. Fishes and invertebrates were collected during a monthly sampling program (August 1974 to July 1975) with a 4.9-m otter trawl (6.5-mm mesh liner) at four seagrass stations. During this survey, five specimens of the maculated flounder, *Bothus maculiferus* (Poey), were collected which represent the first records of this species from the Caribbean coast of Central America. Here we describe morphological characteristics of these specimens and habitat data along with other ecological features of the area where this little known species was captured. All specimens from our work are in the Florida State University (FSU) fish collection.

Study sites.—The study sites in our survey were chosen to represent different conditions in which the seagrass habitat occurs in open subtidal waters (i.e., not on back reefs). Water depth at the sites was approximately 1–2 m depending on tidal condition, and the areas were never exposed at low tide. The two stations at which *B. maculiferus* was collected were separated by about 5 km.

At Station 1, the vegetation was primarily composed of thick growths of *Thalassia testudinum* and *Halimeda opuntia*. Less abundant plants were *Syringodium filiforme, Pencillus capitatus,* and *Udotea flabellum*. The sediment was mostly fine mud, derived from deposition by a nearby small stream and from runoff from a mangrove swamp lining the shore. Water was most turbid here and the site was relatively protected from wave shock by a patch reef.

Well developed coral growths surrounded Station 4, which was located on the leeward side of two small islands. *Thalassia testudinum* was the dominant plant, although there were some small patches of *Syringodium*

filiforme. Calcareous green algae were relatively scarce and sediments were coarse, consisting of calcareous sands and some coral fragments. Wave shock was low during the dry season.

Catalogued material.—FSU 25479, 1 specimen, 65 mm SL; captured at Station 4 in October 1974, approximately 6.5 km NE Colon at Bahia Las Minas. FSU 25964, 2 specimens, 118 and 119 mm SL, taken in a single collection at Station 4 in December 1974. FSU 26536, 26538, 2 specimens, 139 and 64 mm SL, collected in December 1974 at Station 1, approximately 6.4 km NE Colon at Bahia Las Minas.

Diagnosis.—Body depth as a percentage of SL ranged from 56–59%; eye diameter to head length exceeded 23% only slightly in the 64-mm specimen from Station 1. In all individuals, the anterior edge of the upper eye was located above the midpoint of the lower eye, and a notch in the dorsal profile was absent. Dorsal fin ray counts 94–97; anal rays 72–74, gill rakers (lower limb) 6–8; the specimen with six on the ocular side had 7 rakers on the blind side as did the individual with 8 on ocular side. All specimens had well developed eye tentacles, especially the largest. Color varied from light to dark brown, with two dark blotches along the lateral line. One individual had very distinct circular body rings comprised of individual spots (Böhlke and Chaplin, 1968); others had similar, but less distinct, ring patterns.

Discussion.—Salinities on capture dates were 36‰ at Station 4 in October, and 24 and 22‰ at Stations 1 and 4, respectively, in December. *Bothus maculiferus* was not collected during the height of the dry season, possibly because of intense wave activity and associated turbulence in the littoral zone. Numbers of individuals of all species collected at the stations where *B. maculiferus* was present were generally much reduced during the dry season (Weinstein and Heck, 1979).

Stomachs of our specimens contained several fishes (*Monacanthus* sp., unidentified remains), portunid crabs, penaeid shrimp and stomatopod remains, suggesting that *B. maculiferus* is an active predator on the grass flats.

Previous accounts of this species (Gutherz, 1967; Böhlke and Chaplin, 1968, Almeida, 1973) list the range of *B. maculiferus* from the Bahamas and Cuba south to Curacao and the eastern shore of Brazil. Our specimens extend the range of this species to the Western Caribbean coast of Central Americas as far north as Panama.

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